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Wye Group on Statistics on Rural Development and Agriculture Household Income

Note by the Secretary-General

In accordance with a request of the Statistical Commission at its fortieth session,** the Secretary-General has the honour to transmit the report of the Wye Group on Statistics on Rural Development and Agriculture Household Income, which is presented to the Commission for information. The Commission is requested to take note of the report.

* E/CN.3/2010/1.
** See *Official Records of the Economic and Social Council, 2009, Supplement No. 4* (E/2009/24), chap. I.A.

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Report of the Wye Group on Statistics on Rural Development and Agriculture Household Income

1. The Wye Group on Statistics on Rural Development and Agriculture Household Income was established by the United Nations Statistical Commission at its thirty-eighth session, held from 27 February to 2 March 2007, following the completion by the Intersecretariat Working Group on Agriculture and Rural Indicators (IWG.AGRI) of the Handbook entitled *Rural Households' Livelihood and Well-being. Statistics on Rural Development and Agriculture Household Income*.[1] The Group has been working over the last two years to update the Handbook, by expanding its scope beyond the current main focus on Organization for Economic Cooperation and Development (OECD) countries and providing a range of perspectives on the changing nature of agricultural activity and the type of data needed to understand and monitor these trends.

2. The Wye Group had its second annual meeting in Rome on 11 and 12 June 2009, to gather material and proposals for the Handbook update. Expected outcomes of the meeting were: to highlight emerging issues in rural statistics for countries at different levels of development; to share good practices and identify possible uses of new tools in rural statistics in countries at different stages of development; and to agree upon a workplan, a tentative table of contents and a set of relevant contributions for the Handbook update. The meeting was well attended, with over 60 participants coming from international organizations, national statistical offices or administrations and universities. In total, 14 different countries and 27 different organizations (several of which from developing countries) were represented.

3. The meeting in Rome was organized in three sessions: Session 1, Changing rural paradigm: emerging issues and data needs; Session 2, Innovation, new tools and results in rural statistics; and Session 3, Some issues in rural development and household income statistics for countries at different levels of development. Summaries of the papers are provided in the annex. The detailed agenda of the meeting and all documents are available on the website of the Food and Agriculture Organization of the United Nations (FAO) at http://www.fao.org/fileadmin/templates/ess/pages/rural/wye_city_group/2009/index.htm.

4. During the final session of the meeting, a consensus was reached that the update would be closely linked to the Global Strategy for Agricultural and Rural Statistics, being developed under the auspices of the Statistical Commission, and would comprise a revised Handbook and a supplement, especially focused towards non-OECD countries at different levels of development. It was also agreed that the first draft of the revision and supplement would be presented and discussed at the next Wye Group meeting, planned for May 2010 in Washington, D.C.

5. A Steering Committee of 16 members was established to guide the preparation of the update, with representatives from the organizers of the second Wye Group meeting, experts from academia, from developing countries (Brazil, China, India, Uganda) and from Eastern Europe. In addition, an editorial board was set up comprising FAO, the Economic Research Service (ERS), the World Bank and two editors, one for the revision and one for the supplement, respectively. The editors will be assisted by two research assistants to be recruited and supported by FAO.

[1] United Nations publication, Sales No. E.07.II.E.14.

6. Chapters to be updated, revised or newly drafted in both the revision and the supplement were identified. The supplement, in particular, would focus on policy issues concerning rural poverty and hunger, methods of clustering countries, assessment of data sources, analysis of case studies and good practices, and so forth. Further revisions would be discussed at the next Wye Group meeting in May 2010.

7. The World Bank offered to support both the revision and the supplement to the Handbook and to cover the editors' fees, requesting additional funds from the Global Strategy Trust Fund. The revision and the supplement would be published initially only in electronic format and hosted on the FAO website.

8. A detailed workplan for the preparation of the revision and the supplement was also agreed upon by the Steering Committee, with the following timetable:

- ERS/FAO to present a draft proposal linking the Wye Group work and the Global Strategy for Agricultural and Rural Statistics, by the end of August 2009
- Request for written confirmation of voluntary commitments to draft sections/chapters of the Handbook revision and supplement by the end of the summer 2009
- Submission of contributions to the editors by February 2010
- Review of the Handbook revision and supplement chapters at the Wye Group meeting in Washington, D.C., in May 2010
- Presentation of the final update to the Fifth International Conference on Agricultural Statistics, to be held in Kampala in October 2010.

9. As of November 2009, progress was made in the following areas:

- Outlines for the revision and supplement, respectively, were drafted and circulated.
- A call for a formal commitment to draft a chapter or a section of the updated manual was sent to prospective authors.
- Research assistants were selected and recruited by FAO to support the two editors.
- A draft proposal to ask for additional funds from the World Bank's Global Strategy Trust Fund was prepared.

10. The next Wye Group meeting is planned for May 2010 in Washington, D.C., and will be organized and hosted by the United States Department of Agriculture/Economic Research Service and the World Bank.

Annex

Summary of the sessions of the second meeting of the Wye Group on Statistics on Rural Development and Agriculture Household Income, held in Rome, on 11 and 12 June 2009

Plenary session 1: Changing rural paradigm: emerging issues and data needs

Overview

1. This session discussed the growing complexity of the relationship between agricultural endeavour and well-being in both Organization for Economic Cooperation and Development (OECD) and non-OECD countries. All of the papers by and large drew upon international comparisons to address issues related to changes in governance structure; the changing nature of traditional agricultural activity; and the changing allocation of labour across this traditional notion of agriculture and "non-agricultural" activities. A common theme was the need to reconsider the kinds of data needed to understand and monitor these trends both for research and policy implementation.

Papers and presentations

Rural areas definition for monitoring income policies: the Mediterranean case study, paper by Giancarlo Lutero and others

2. The authors examine the determinants of the large rural-urban differences in income levels across countries in the Mediterranean basin. An interesting feature of this spatial differentiation is that it occurs across areas that are geographically and often culturally similar. Rural-urban differences are identified consistently across countries, thus demonstrating the value of such territorial divisions for economic classifications and policy consideration.

3. Both authors and audience noted a number of key data needs that would allow a fuller accounting of international comparisons of well-being. The authors identified a number of important differences in the way data are collected as having potentially strong effects on the results of their analysis. Audience members discussed the extent to which the income differences were related to the density of agricultural activity, a metric not easily captured by available data.

Ownership, governance, and the measurement of income for farms and farm households: evidence from national surveys, paper by James Johnson and others

4. The traditional view of agricultural decision-making focused on the centrality of the single farm owner and associated household. A contemporary understanding acknowledges a far more complex view in which multiple owners, households, and other stakeholders share in both the decisions and the agricultural returns in ways not well captured by many farm surveys. The authors examine this changing governance structure in agriculture across the United States, Canada, the Netherlands and Italy, drawing from national surveys in each country. They document that the single owner/decision-making unit is still numerous in terms of share of farms owned, but contributes a small share of production.

Diversification and multifunctionality in Italy and the Netherlands: a comparative analysis, paper by Cristina Salvioni and others

5. In response to the crisis in the productivist model of agriculture, producers have increasingly diversified their economic activities, including those with strong ties to farming, those that are tied only by the use of a common resource, and those related to off-farm activity. To understand how contemporary producers are maintaining income and remaining part of the rural development fabric, the authors draw upon the classification of activities proposed by Van Der Ploeg and Roep, and use Dutch and Italian Farm Accountancy Data Network (FADN) data to examine and compare the diffusion of broadening, deepening and pluriactivity strategies in the two countries. Results show that farmers in both the Netherlands and Italy widely rely on the strategies examined, but that the mix and frequency of strategy utilization varies, partly owing to available information. Much of the discussion centred on the characterizations of the strategies, for example, whether pluriactivity was really an expansion of activity from farming to off-farm, but often (or perhaps, more often) occurred in the opposite direction.

Data sources and quality improvements for statistics on agricultural household incomes in 27 EU countries, paper by Berkeley Hill

6. Two paradigms that have driven agricultural data collection and analysis in the past — the centrality of agriculture in rural economic activity, and the dominance of the single-owner farm unity — have been fundamentally reconsidered in recent years. The author traces the efforts of European countries to recast their survey efforts in light of the changed realities and the challenges that have prevented full implementation of key initiatives. A critical role is played by the introduction of new member States into the European Union, many of which have quite different farm ownership structures, institutions, and employment activity.

Discussion

7. A common theme of the presentations was the significant limitations of current data to capture the emerging trends in agricultural management and household well-being identified in the session. For example, in the Lutero paper, a number of participants argued that wealth would be a stronger measure of long-term well-being than income, while acknowledging that data collection for wealth metrics is often inadequate. Even when the metric is correct, differences in the way data are gathered to produce indicators may prevent a full and accurate picture of international differences in economic processes. It was generally agreed, however, that a suboptimal measure is better than none at all.

8. There was also a general discussion about the challenge of collecting data that may be used to derive politically sensitive results. Statisticians serve the needs of policymakers, who are likely to be more sensitive to the conflict occasionally motivated by analysis; yet policymakers must also design and implement programmes and policies that reflect emerging reality.

Parallel session 1a: Different views of diversification and non-farm income

Overview

9. The main objective of this session was to discuss different results related to non-farm income and rural livelihood diversification. The papers highlighted different characteristics and causes to explain rural income patterns, especially when looking at India, where data show that female participation in rural non-farm activities has not increased, and Canada, where the increase of female labour participation in non-farm earnings is the main factor in explaining the decline in the household's agricultural earnings. The session also discussed data issues and methodological frameworks for refining the measurement of rural income. One paper also raised the issue of the importance of using sound statistical analysis and indicators in the decision-making process.

Papers and presentations

Rural livelihood diversification and its measurement issues: focus India, paper by Rajiv Mehta

10. The Wye Group framework postulates that single income from farm activities explains the incidence of deep poverty. The paper discusses the aspects of rural livelihood diversification, blending non-farm economic activities with farm activities as the development paradigm for improving the livelihood and well-being of rural households. The constraints owing to rural structural distinctiveness in terms of resource endowments and factors of production are highlighted, as well as policy options to overcome them, such as strengthening empowerment and ensuring security for enhancing opportunities of such livelihood diversification. The paper gives an extensive description of available data on the multiple dimensions of rural economic diversifications and of measurement issues in India.

Households associated with agricultural holdings: selected socio-economic dimensions, paper by Ray Bollman, Statistics Canada

11. Statistics Canada used its Agriculture-Population Linkage database over the period from 1971 to 2006 to assess and study the role of these two factors in the measured increase in off-farm income of households associated with census-farms. The study addressed the possible causes that can explain the increasing share over time of off-farm work by the owner and other family members reported by census-farm operators. Some of this increase has been due to a polarization of the structure of agricultural holdings — more larger holdings and more smaller holdings. An ancillary objective was to explain the way the Agriculture-Population Linkage is created and to enumerate the contribution of this database to agriculture and rural policy analysis.

Measuring socially and economically sustainable rural communities — a policy-based approach, paper by Pippa Gibson

12. The Department for Environment, Food and Rural Affairs of the United Kingdom has set a certain number of indicators to measure the policy objective of "socially and economically sustainable rural communities". The paper discusses the indicators chosen to evaluate this objective which are organized along two main

components; the first one looks at mainstream policy areas ranging from education and health to poverty and housing affordability. The second one focuses on productivity, supported by a range of indicators from earnings and employment to investment and enterprise.

Parallel session 1b: Developing improved rural and farm survey methodologies

Overview

13. This parallel session discussed two issues related to the collection and interpretation of statistics on rural development and household income. The first paper reported on the International Financial Reporting Standards (IFRS), a set of standards that prescribes methodologies for income measurement at the business level. The second paper reported the experiences in China to set up an integrated agriculture and rural statistical system. There was no direct relation between the two papers, but both provided very valuable material to update the Handbook.

Papers and presentations

Experience on the use of international financial reporting standards for the calculations of agricultural income, paper by Koen Boone

14. International Financial Reporting Standards are developed in the accounting profession to correctly measure income and assets in companies. Over 100 countries have adopted these standards, including the European Union and many developing countries. There is a convergence process with the United States accounting standards. International Accounting Standard 41 deals with some specific agricultural issues, like the valuation of biological assets. It introduced several breakthroughs in accounting standards, such as the concept of "fair value" for biological assets.

15. The paper reviews the implantation of IFRS standards in the Dutch FADN since 2001. It shows that the use of IFRS is feasible but that two issues have recently become the topic of a debate. One is the inclusion of changes in the value of breeding livestock in the income indicators (as prescribed under the fair value concept). This implies that income increases at the moment the prices of breeding livestock increase. The other issue is the depreciation of milk quotas: the abolition of milk quota would lead to much lower income levels, as the quotas have to be depreciated in the income statement.

16. The discussion revealed that IFRS are a useful tool to guide discussion on the measurement of income and wealth, also in statistics. The standards are potentially a very useful way to standardize income calculations within agriculture but also between agriculture and other sectors. It was recognized, however, that in many data collection schemes the measurement of income and wealth is based either on tax-related income concepts or the methodology for recognizing income is not made explicit at all.

Promoting an integrated agriculture and rural statistical system in China, paper by Yu Xinhua and Yan Fang

17. China is a large agricultural country with 930 million people (70 per cent of the population) living in rural areas. China is changing fast and the development of

the rural area and agriculture is of strategic importance for the sustainable development of the country. China's statistical system includes a full set of statistical indicators to reflect the situation and development of agriculture, rural areas and the rural population. It has three main components: agricultural statistics; rural statistics; and rural household statistics. The paper describes several efforts to improve the statistics system, especially on integrating rural and urban household surveying, improve agricultural production surveys with up-to-date technology, improved economic accounts and price data, improved coordination in the system and new tools for quality management.

18. The session agreed that the papers could provide the basis for extending and developing the Handbook. The IFRS paper could be reworked in a section at the beginning of part II to discuss measurement of income and wealth in more detail. The China paper would be a good basis for a box on best innovation practices in a large and fast developing country, in part I.

Plenary session 2: Innovation, new tools and results for rural data

Overview

19. This session discussed new technologies for rural and agricultural data. The papers fell into two categories: dissemination and collection. Papers looking at using new technologies to disseminate data were presented in the papers of George and others and Barcaroli and others. Papers examining the use of new technology for data collection, such as the use of remote sensing, were discussed in the paper of Smith and others and Global Positioning System (GPS) technology in the paper of Doumbia and others.

Papers and presentations

Agro-MAPS: Mapping subnational agricultural land-use statistics on a global scale, paper by Hubert George and others

20. Agro-MAPS is an interactive web-based information system on land use which was created specifically to support several key global applications requiring subnational statistical data on crop production, area harvested, and yields. The system allows users to query and browse interactively the geo-referenced statistical data in the form of maps and subsequently to download data and maps for a selected country or region of interest. The data can also be processed interactively on the Agro-MAPS website in order to display maps of locally and regionally important crops. Land-use applications relevant to rural development span a range of nationally to globally important issues, including food security and poverty, sustainable land management, climate change, as well as policy formulation and planning. The presentation also described the potential use of Agro-MAPS data for the development of selected land-use indicators and in the characterization of national and global land-use (farming) system maps.

21. During the discussion, the strength of the data was questioned, as imputed data give different accuracy to directly observed data. However, all data used in the project were already published and taken directly from each individual country as FAOSTAT data are not collected at the subnational level. The maps would be updated every 6 to 12 months.

Use of remote sensing in combination with statistical survey methods in the production of agricultural, land use and other statistics: current applications and future possibilities, paper by Jeffrey Smith and others

22. The benefits of remote sensing versus sample surveys were discussed, and whether the remote sensing system was operational enough to remove the need for surveys for core variables. Questions regarding the cost of remote sensing were also raised, and while remote sensing removed the administrative burden on farmers, there would be software costs. The groundtruthing element of the methodology could improve accuracy and reduce the need for individual surveys.

An assessment of the adoption and impact of improved rice varieties in smallholder rice production systems in Côte d'Ivoire, paper by Sékou Doumbia and others

23. The issue of improving yields by using irrigation, herbicides and fertilizer was raised. Then, relating to Smith's paper, the potential of using remote sensing to identify mixed cropping was discussed. It was suggested that if the fields were reasonably sized, the system could be used, though some crops with distinctive flowers/leaves would be more easily identified, and perhaps different rice varieties would be more difficult to distinguish. The question about the benefit of surveys over GPS to engage and involve farmers was also raised.

An open source approach to disseminate statistical data on the Web, paper by Giulio Barcaroli, Leonardo Tininini and others

24. The discussion began with a discussion of the users of the technology; as well as the Italian National Institute of Statistics (ISTAT) countries, such as Kosovo and Bosnia subscribed to the system. There was also discussion of the disclosure control needed for such a system, and whether users themselves should have access to the full dataset and apply their own disclosure rules or whether the system would control for disclosure issues before dissemination. Tininini confirmed that in the case of the ISTAT system, the latter methodology was adopted.

Parallel session 2a: Data collection

Papers and presentations

Statistical data and objectives: a suitable methodology for data collection, paper by Massimiliano Gallina

25. In the paper, a protocol was developed for selecting the best source for producing statistics in less than ideal situations. The idea behind this is that in most cases, no money is available for a complete new survey and therefore the statistics should be based on the best available (administrative) sources. A prioritization of sources was presented, ranging from official sources used by the Government to very partial data or no valid statistical data. During the discussion, it was argued that official sources of the Government also sometimes lack reliability and thus are not always preferred. A very crucial part of the protocol is a team of local experts that has to make the evaluation of the available sources. They should have local knowledge, a good understanding of agriculture and agricultural incomes and preferably background information about potential sources.

The changing nature of family farms in the U.S. and Europe: implications for data collection, paper by Mary Ahearn and others

26. Ahearn's paper discussed the changing structure of farms. In the past most farms were family farms with one operator that was also the owner. Now farms have diversified organizational structures, multiple operators that might own part of the farm or not and multiple owners. Next to that contract farming increases in importance. These developments have large consequences for the indicators used within a country. They are especially important when comparing countries while next to the issues discussed, large differences in structure of the agricultural farms might exist. This is illustrated by a comparison of Dutch, Italian and American data on the number of farms, farm size and pluriactivity. The authors advise the editors of the Handbook to develop an integrated conceptual framework for the two parts on rural areas and agricultural income that is able to take into account the changing structure of farms and households. This framework should be the base of future work on indicators. The editors agreed with the authors that an integrated framework would be welcome but very difficult to develop. They stated that originally they even wanted to develop two separate handbooks.

Parallel session 2b: Technologies for rural data

Papers and presentation

Is the Italian organic farming model inside rural development? A farm structure survey data analysis, paper by Giampaola Bellini Simona Ramberti

27. Analysis performed on farm structure survey data revealed good performances for organic farming in year 2005 in environmental and socio-economic area. In fact, they not only adopt more environmentally friendly agricultural practices — as the ones suggested by law — but they also seem to have positive effects on the socio-economic dimension, thus enhancing rural development as a whole.

28. From the statistical point of view, farm structure survey revealed to be a suitable data source of standardized environment and socio-economic variables, all linked to a single holdings, so that they are suitable for analysis with a multidimensional approach.

Measuring cultivation parcels with GPS: a statistical evidence, paper by Gabriele Palmegiani

29. The aim of the paper was to study the statistical relevance of measuring cultivation parcels with GPS, with respect to the traditional method using compass and meter. The procedures used for the study reached the following two main findings: the first is the Unconditional Inference result. On the statistical equivalency hand, only Garmin60 (GPS60) is found statistically equivalent to the traditional method. On the parcel estimates hand, the traditional method tends to produce larger parcels estimates with respect to all GPS measurements methods. The first finding is the Conditional Inference result. On the statistical equivalency hand, empirical p-values produce the same conclusion of the theoretical ones: only cultivation parcel estimates using Garmin60 are found statistically equivalent to the traditional method.

30. On the parcel estimates hand, nothing can be stated about the largeness of the cultivation parcels using the conditional approach, and then the unconditional inference result remains valid.

31. The paper concludes that because the GPS methods are globally cheaper than the traditional method using compass and meter, the use of GPS60 is strongly recommended to reduce the costs of the agricultural surveys.

Micro versus macro approach on agricultural income measurements for rural households in Italian official statistics: an application for Albania, paper by Domenico Ciacci and others

32. The paper focuses on available data, from micro and macro sources, concerning agricultural households' incomes in Italy and Albania. After a brief history of these statistics in the European Union, the Italian approach on income measurement was presented. It was shown that the same approach can be applied in countries, such as Albania, where there is limited availability of statistical data.

Conclusions of the paper

33. In the near future, it is necessary to extend agricultural households' income indicators in Italy at the regional level (Nomenclature of Territorial Units in Statistics level 2) by means of new data available. This further step will allow politicians to optimize territorial interventions targeted to the support of households' incomes, also through solidarity policies, and with a particular attention to the needs of rural population.

34. There should be also more attention to type "B" of agricultural households, that is a vulnerable group in constant growth. It is important to guide policies at territorial level, providing statistical information on services available, opportunities to seek additional income from inside and outside the farm activity, encouraging their members in working age to integrate with the territory and to develop concrete steps able to reach an integrated income.

35. The future evolution of the issues related to rural development and extension of field observation in rural areas, should allow to further refining the basic surveys, linking rural development and policy impact on agricultural households and rural areas present in the territory. Priority given to statistics on agricultural households' income by Eurostat and member States will be key in the future to make appropriate choices and interventions in support of those subjects (households) that should be protected and encouraged to integrate with the territory.

36. The situation of new member States in the process of harmonization, such as Albania, is very different. The analysis of poor households shows that the poorest population is rural, but the gap with the urban population is steadily declining. In short, the experience described is an example of application and export of the statistic methodology in other realities even with a limited availability of data.

Plenary session 3: Some issues in rural development and household income statistics for countries at different levels of development

Overview

37. The main objective of this plenary session was to discuss issues related to the collection and interpretation of statistics on rural development and household income in countries at different levels of development. The level of development of a country has an impact on how these statistics can be collected and their analysis and use in three main ways. First, the size of the rural sector both in terms of the number of people involved and the contribution of agriculture and agricultural related activities to the national economy is crucial. Secondly, the level of technology employed and the extent to which production activities are determined by the location in which they take place and the environment they operate in. Thirdly, the level of development has an important impact on how much countries have been able to invest in their statistical systems and hence in their capacity to collect, compile and use statistics on rural development and agricultural household income.

Session 3

38. Session 3 of the June 2009 meeting of the Wye Group illustrated a number of different aspects of these three issues and demonstrated the kinds of challenge that an update of the Handbook, focusing on the needs of low income countries, will face. There were four papers, one describing the problem of measuring and understanding rural poverty in a developing country — India; one illustrating the use of administrative records and registers to analyse longitudinal changes in agricultural households in Canada, and two focusing on multi-country studies. The papers and the discussion they generated, however, helped to make clearer the ways in which the Handbook is already relevant to all countries and where it may need to be extended and developed further.

Papers and presentations

Estimation of rural poverty: a discussion with reference to India, paper by Chatterjee Shankar

39. The paper reviews national data on rural poverty in India with reference to the 2004/2005 national sample survey. India has a long history of carrying out household surveys and the National Sample Survey Organization is one of the premier survey agencies worldwide. This history provides a long time series of poverty data for the different states and territories and the paper provides a summary of how rural poverty has changed over the past 30 years. While there has been substantial progress nationally, across states the picture is mixed, with some states making substantial progress, but others lagging behind. The paper describes a number of different poverty reduction programmes and also provides a number of case studies to illustrate how these have had an impact. It also argues that a better understanding of rural poverty and its many characteristics requires both qualitative as well as quantitative data.

Accounting for the diversity of rural income sources in developing countries: the experience of the RIGA project, paper by Ana Paula de la O Campos, Alberto Zezza and others

40. The paper addresses the issues and lessons learned by the FAO Rural Income-Generating Activities Project (RIGA) in both the construction of income aggregates for cross-country comparison, and the results derived from this exercise. Major issues regarding the estimation of income covered the categorization of suitable approaches for dealing with costs, and the importance of reporting taxes and deductions in surveys collecting income data. In terms of survey questionnaire design, issues such as the appropriate use of reference periods, the need for equivalence scales, and the consistency in units and coding were discussed. Finally, lessons learned derived from the RIGA cross-country analysis highlighted the diversification of rural income and identified various definitions of the agricultural household, to which the results of income analyses may be sensitive.

Farm families, rural and urban non-farm families and the incidence of low income in Canada, paper by David Culver and others

41. Canada has a rich source of family income data for farm, rural and urban families. Tax records provide both annual and longitudinal family income data for Canadian families. The taxation data is used to illustrate the complexities involved in comparing family income levels and measuring the incidence of low income. When the sample is restricted to only couple families, urban families had the highest median income. However, when all families and individuals were analysed, the median income of farm families was significantly higher than that of non-farm families. The frequency of low income can also change depending on the type of low-income measure used. Longitudinal farm family income data provides significant benefits over annual data by tracking the same family for more than one year. Longitudinal data is particularly important when examining the income of those families operating large and very large farms.

Gathering information on total household income within an "industry oriented" survey on agriculture: methodological issues and future perspectives, paper by Benedetto Rocchi

42. The paper argues for the inclusion of questions on total household income within agricultural surveys that use the holding or the farm as the unit of enumeration. The paper also illustrates how the links between farming activities and the overall income strategy of the household may be represented in a Social Accounting Matrix (SAM) framework. This kind of model provides a means of classifying production activities according to technical criteria and institutions according to socio-economic criteria. The identification of the group of agricultural households then results from combining an industry with a sector classification. The paper then argues that the proper level to survey (and to represent in models) this structural linkage is the production unit, which in agriculture is the holding or the farm.

Discussion and conclusions

43. There was a wide ranging discussion on the papers. It was agreed that many of the issues which were raised should be addressed in future editions or versions of

the Handbook, but that the basic conceptual framework is sound and applies to more or less all countries regardless of their level of development. The main concepts of income as determined by the Canberra Group seems to be both relevant and applicable in a wide range of different environments; what is required is a wider range of case studies and examples that illustrate how the concepts can be used and applied in different countries. There would also seem to be a need for more discussion of statistical methods and procedures, especially those that can be used effectively in less than ideal conditions.

44. There was also agreement that the papers could provide the basis for extending and developing the Handbook. Areas that could be covered include:

- The importance and use of longitudinal data for studying income and poverty dynamics
- Linking information from both quantitative and qualitative studies
- The need to develop an inventory of key concepts used in different countries, with examples where possible
- The question of whether to measure income or consumption as welfare indicators and the associated problems of dealing with concerns such as remittances, capital flows and changes in stocks
- The role of frameworks such as the Social Accounting matrix as an integrating device for bringing together data from different sources and for identifying data inconsistencies and gaps
- How to deal with own consumption of production within the farm household and associated problems of valuation.

Parallel session 3a: Measuring food security and food poverty

45. The papers in this session discuss various aspects of the measurement of poverty, food security and social exclusion. The three concepts can be observed in the same individual and there are also community and regional linkages. The three papers explore a range of measurement issues including the thresholds to identify the number or share of poor or food insecure people. Sibrian's presentation links the thresholds for poverty and minimum dietary energy requirements. Bienkunska's presentation covered the measurement and diagnosis of poverty and social exclusion in rural areas as related dilemmas. Polish Central Statistical Office surveys provide for consistent measurement of poverty annually and every few years multidimensional analysis. Bienkunska also differences according to whether income or consumption are used. An important factor for countries with a significant share of the population living on farms is whether the analysis covers monetary income only or includes natural consumption. Statistics on social exclusion are complex and the aim of the social cohesion survey is to collect information which would support a comprehensive evaluation of the quality of life of Poles and analysis of the relationship with poverty.

46. Aspects of each paper are relevant to the sections of the Handbook treating rural statistics. Policymakers have a keen interest in poverty measurement and poverty alleviation is a Millennium Development Goal. The methodological parts of the paper discuss concepts to be measured, statistical techniques, and thresholds for

poverty. The example for Poland formalizes measurement of social exclusion and discusses community indicators.

Papers and presentations

Indicators on undernourishment and critical food poverty at national and subnational levels, paper by Ricardo Sibrian

47. Indicators to measure food poverty and undernourishment are useful for understanding food insecurity at national level and within countries. The paper discussed two indicators: proportion of undernourishment and proportion of critical food poverty. Both indicators are based on nutritional underlying criteria and derived from food consumption and income data collected in national household surveys. Proportion of undernourishment is the Millennium Development Goal indicator number 1.9, which is based on the distribution of dietary energy consumption (DEC); the proportion of critical food poverty is an indicator that links undernourishment to food poverty, based on the distribution of income (INC). The link is the concept of minimum dietary energy requirement (MDER) used in the FAO methodology as the cut-off value in the distribution of dietary energy consumption for estimating undernourishment. The critical food poverty line for estimating the proportion of critical food poverty is the critical income corresponding to the cost of MDER, based on a balanced diet on energy-yielding nutrients accessible to low-income population groups. The macronutrient-balanced diet uses the recommendations of a Joint World Health Organization/FAO Expert Consultation on Diet, Nutrition and the Prevention of Chronic Diseases, held in Geneva in 2002, as its point of reference. Examples illustrate the results of both indicators for a sample of countries in different countries.

Poverty and social exclusion in the Polish rural areas: attempted diagnosis and measurement-related dilemmas, paper by Anna Bienkunska and Monika Borowska

48. The differences in the socio-economic development between the Polish urban and rural areas as well as among particular regions of the country have also been confirmed by poverty and social exclusion statistics. The methodological part of the paper describes the measurement methods used by Polish official statistics in the area of poverty and social exclusion, including evaluation of the basic sources of data. Some dilemmas concerning international comparison of poverty are discussed. The second part of the paper provides a concise diagnosis on poverty and selected aspects of social exclusion in Polish rural areas, with particular attention to poverty range measurement that includes various poverty lines. Over one third of the Polish population lives in rural areas and the Polish Central Statistical Office's surveys confirm that during the last few years one tenth of the inhabitants of these areas have been at risk of extreme poverty. In 2007, 10.5 per cent of people below the poverty line that measures the subsistence minimum (versus 4 per cent in towns). The highest rural poverty rates were noted among families without their own arms and living on social benefits other than retirement pay or pensions. Poverty also varies across regions and the socio-economic characteristics of Polish rural areas.

Measuring undernourishment: comparison analysis between parametric and non-parametric methods based on Burkina Faso agricultural survey, paper by Moussa Kabore, submitted but not presented

49. The paper compares the two principal methods used to measure food insecurity using data from food and agricultural survey of Burkina Faso in 2006. The parametric method estimates undernourishment by supposing that the food consumption follows a lognormal distribution. The non-parametric method estimates the proportion of undernourished people from individual data. The paper shows that the two methods converge based on the law of large numbers. The non-parametric method allows cross-analysis of household undernourishment status with other socio-economic variables and the ability to monitor the Millennium Development Goals at the subnational level.

Parallel session 3b: Towards a core set of indicators

Papers and presentations

Developing countries' perspective: selecting a core set of indicators for monitoring and evaluation in agriculture and rural development in less-than-ideal conditions and implications for countries statistical system, paper by Naman Keita and others

50. The main themes discussed in the recent report of the Global Donor Platform for Rural Development/FAO/World Bank entitled *Tracking results in agriculture and rural development in less-than-ideal conditions: a source book of indicators for monitoring and evaluation*, were summarized.

Composite indices for multidimensional development and poverty: an application to MDG indicators, paper by Matteo Mazziotta and others

51. The measurement of development or poverty as multidimensional phenomena is very difficult because there are many theoretical, methodological and empirical problems. The set of indicators gives complete information but the multidimensionality can complicate the reading and the analysis of the results. The possibility to have a unidimensional measure that summarizes the information — in order to make it immediately clear and interpretable — can simplify considerably both data analysis and reading of complex phenomena.

For this reason, we propose a new and alternative composite index (Mazziotta Pareto Index (MPI)) which, starting from a linear aggregation, introduces penalties for the countries or geographical areas with "unbalanced" values of the indicators.

As an example of application of MPI, we consider a set of indicators in order to measure the Millennium Development Goals and we present a comparison among Human Development Index methodology, Human Poverty Index methodology and MPI.

52. Most of the discussion related to the philosophy of various alternatives for selecting weights to generate a composite index. Even the use of market prices as weights in a composite price index is assuming that the price has a direct relationship to the value of the item. The authors referred the discussion back to the

note in their paper from A. Sen that argued for a transparent and inclusive democratic process to select these weights.

53. One suggestion for the paper by Keita and others was that the name of each indicator should define the variable (say, as a row in a table) and then another dimension of the table (say, as columns) should define the geographic grid in which the variable is to be reported (say, rural, urban, all areas).

Session 4: Way forward in order to supplement the Handbook

54. A paper by Hill and Karlsson entitled "Discussion on the Handbook — preview of the Handbook update" was presented. Based on the table of contents of the Handbook, the paper indicated which chapters and subchapters that needed to be revised or added. It was stressed that the Handbook, as it now stands, lacks analysis and suggestions of good practices as concerns developing countries. For this reason a whole new section need to be added to the Handbook, addressing the particular issues of developing countries. To that end, the paper discussed the problems facing the developing countries as concerns lack of basic data series and hence also basic indicators, as shown in the external review of the FAO Statistical System and the paper by FAO/World Bank entitled "Selecting a core set of indicators for monitoring and evaluation in agriculture and rural development in less-than-ideal conditions". This calls for, on the one hand, prudence in recommendations of data series and indicators and, on the other hand, assistance by international organizations and donor countries to focus on statistical capacity-building. As developing countries are far from being homogenous, it is necessary to deal with various clusters of countries having different degrees of economic development.

55. In the introduction to the session, the history of the Handbook was recalled as well as how work was organized and carried out. As for the revision and update of the Handbook, it was suggested that an editorial board would be set up. In addition to this board, the work would be carried out by engaging:

- Seconded staff (could be based in FAO or home countries) from national statistical organizations or other national agencies dealing with agriculture economics/statistics
- Interns from universities, preferably based with FAO
- Contributions by experts of the Wye Group in drafting/reviewing chapters, subchapters and case studies.

56. It was also stressed that the update had to be linked to the Global Strategy for Agriculture Statistics, which will contain recommendations concerning which core indicators, data series and methodologies to focus upon from a global perspective.

57. As for the timetable of the work of updating the Handbook, the following milestones were suggested:

- International Statistical Institute Satellite Meeting on Agricultural Statistics, to be held in Maputo, in August 2009, at which the Global Strategy will be presented. The work of the revision/update of the Handbook should be closely coordinated with the Global Strategy.

- Wye Group meeting in Washington, D.C. in April/May 2010, organized by ERS and the World Bank. This meeting would review the revised and updated sections (but in a non-edited form). This would imply that authors of chapters and subchapters would have to submit to the editor their contributions by February 2010.
- Final update to be presented to the Fifth International Conference on Agricultural Statistics, to be held in Kampala in October 2010.

58. Among the issues proposed to be included in the revision/update, the following can be mentioned:

- Policy issues concerning poverty and hunger
- Definition of clusters of countries
- More detailed review of data sources (for developing countries, rather the lack of basic data series)
- Methodologies, including new technology
- Inventories of rural development and household income for developing countries similar to that which was done for Economic Commission for Europe/OECD countries
- Case studies of good practices (China, India, Brazil, Canada, United Kingdom, United States, Italy and the Netherlands, based on papers presented to the meeting)
- Linkage to the Global Strategy
- Definition of all types of farms, family farms as well as non-family farms
- A data collection system that allows for a continuously changing farm and household structure.

59. As for the particular chapters to be revised and updated, the following was also suggested (in addition to those mentioned in the Hill/Karlsson paper):

Chapter II	Specific policy issues for developing countries
Chapter VI	Refers to suggestions of the Global Strategy. Include remote sensing and other innovation tools
Chapter VII	Should be revised to include core set of indicators and a menu of indicators as will be suggested by the Global Strategy and also listed in "Selecting a core set of indicators for monitoring and evaluation in agriculture and rural development in less-than-ideal conditions"
Chapter VIII	A unified framework for agriculture households in all countries irrespectively of stage of development. It should also discuss in more detail the complexity of farming whether it is family farming or non-family farming as well as on multifunctionality activities
Chapters IX-XIII	Revision, additions and updates for developing countries, in particular concerning vulnerability and risk for low-income countries, consumption indicators, gender perspective and housing policies for rural development.

Restricted meeting of the Steering Committee

60. The final session of the Wye Group meeting was a restricted working session of potential authors to the revised Handbook and supplement to decide upon the next steps and organization.

61. It was stated that ERS would take on the secretariat of the Wye Group and the coordination of the Steering Committee, as they will host the third Wye Group meeting in 2010, probably with the contribution of the National Agricultural Statistics Service.

62. It was agreed that a Steering Committee and an Editorial Board would be put in place for overseeing the work on the revised Handbook and supplement.

63. The **Editorial Board** will be formed by Berkeley Hill as Chief Editor and Editor for the revised Handbook; and Graham Eele as Editor for the Handbook's supplement.

64. As custodian of the Handbook, FAO will host both the revision and the supplement on its website.

65. The Handbook revision should start as soon as possible after the Steering Group agrees on the chapters that need to be revised and authors commit to draft given sections/chapters.

66. Actions and next steps include the following:

- FAO would send to ERS the tentative tables of contents with new topics for both the revised Handbook and supplement for further circulation to the Steering Committee.
- FAO would circulate the latest electronic version of the Handbook in MS-Word format (.doc) to the authors, once they are identified.
- FAO would draft and circulate the final report of the meeting by 10 July and circulate it to the Group for advice and comments before dissemination and report to the United Nations Statistical Commission.
- ERS will request written confirmations of voluntary commitments to draft sections/chapters of the Handbook revision or supplement by the third week of July.
- ERS would request the nomination of a focal point in each organization in the Steering Committee.
- ERS, in consultation with FAO/World Bank, will draft a proposal connecting the Wye Group work to the Global Strategy, a provisional workplan and budget to be circulated to the Steering Committee before its being presented at the ISI Satellite Meeting in Maputo in August 2009.